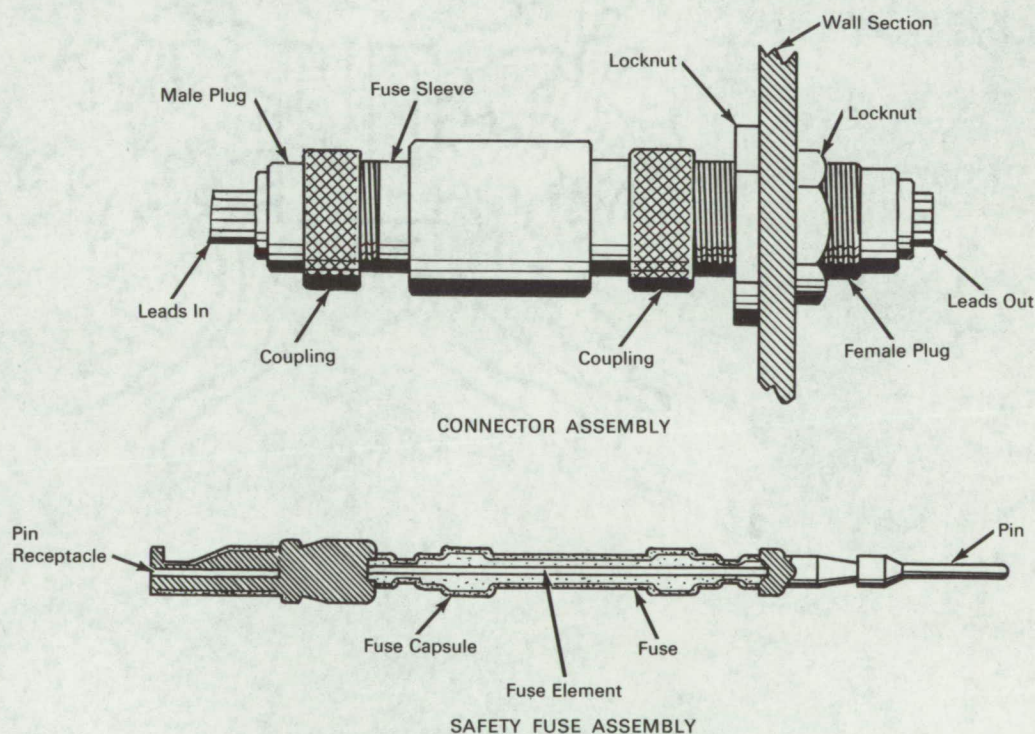


# NASA TECH BRIEF



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## Single Connector Provides Safety Fuses for Multiple Lines



### The problem:

To design a single, compact device that will provide safety fuses for a number of circuits in a variety of current carrying capacities. It must protect the safety fuses and connections from the elements and be easily and quickly opened for exchange or replacement of fuses.

### The solution:

A fuse-bearing sleeve for insertion between the male and female members of a multiple-line connector. The sleeve, which contains an individual safety

fuse for each pin of the connector assembly, may be quickly opened for fuse replacement.

### How it's done:

The connector may be mounted in a cabinet or building wall and held in place by two locknuts. A male plug has all incoming leads soldered to pins in its base. A female plug has all outgoing leads soldered to pin receptacles in its base and it includes the means of fastening to a wall section. A threaded fuse sleeve contains the required number of safety fuse assemblies (one illustrated) and includes a captive

(continued overleaf)

threaded coupling. The fuse sleeve is pressed into the female plug so all its fuse assembly pins enter the mating receptacles and is secured by tightening the coupling onto the threads of the female plug. The male plug is then pressed into the fuse sleeve so that its pins enter the pin receptacles of the various fuse assemblies and it is secured by tightening the coupling onto the threads of the fuse sleeve.

To replace or exchange fuses, the male plug is disconnected from the fuse sleeve and the fuse sleeve is removed from the wall-anchored female plug. Using a special tool (not shown), any fuse assembly may be quickly removed by pressing the tool against the shoulder of the pin and forcing the fuse assembly back out of its channel within the fuse sleeve. The replacement fuse assembly is installed by forcing it pin-first into its channel within the fuse sleeve. The

fuse assembly is easily disassembled by pulling on each end of the fuse capsule and a new fuse element or one of a different value is quickly installed in the fuse.

**Note:**

This invention should have application wherever multiple leads carrying various current loads must be fused.

**Patent status:**

Title to this invention has been waived under the provisions of the National Aeronautics and Space Act (42 U.S.C. 2457 (f)), to McDonnell Aircraft Corporation, Box 516, St. Louis, Missouri, 63166.

Source: George J. Weber of McDonnell Aircraft Corporation under contract to Manned Spacecraft Center (MSC-199)